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**Recent advances in radiation cancer therapy**

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This paper presents the recent advances in radiation therapy techniques for the treatment of cancer. Significant improvement has been made in imaging techniques such as CT, MRI, MRS, PET, ultrasound, etc. that have brought marked advances in tumor target and critical structure delineation for treatment planning and patient setup and target localization for accurate dose delivery in radiation therapy of cancer. Recent developments of novel treatment modalities including intensity-modulated x-ray therapy (IMXT), energy- and intensity modulated electron therapy (MERT) and intensity modulated proton therapy (IMPT) together with the use of advanced image guidance have enabled precise dose delivery for dose escalation and hypofractionation studies that may result in better local control and quality of life. Particle acceleration using laser-induced plasmas has great potential for new cost-effective radiation sources that may have a great impact on the management of cancer using radiation therapy.